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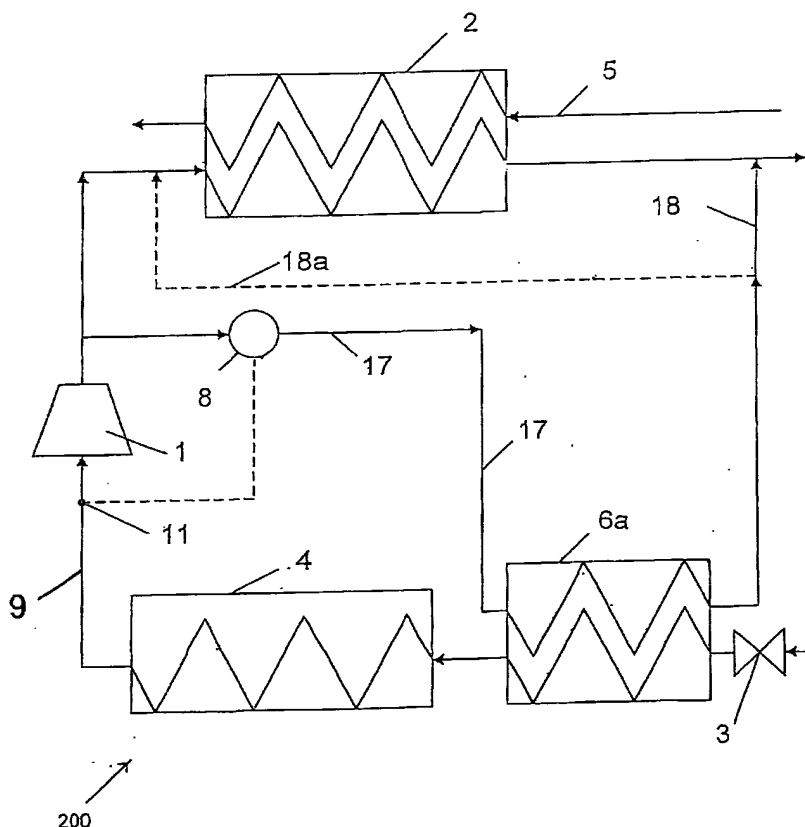
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(54) Title: HEATING AND DEFROSTING METHODS AND APPARATUS



(57) Abstract: A heat pump includes a compressor 1, a condenser 2, an expansion valve 3, an evaporator 4 and a heat exchanger 6a. The heat exchanger 6a is located immediately downstream of the expansion valve 3 and upstream of the evaporator 4. A controller 8 monitors one or more variables which predict when icing of the evaporator 4 may be about to occur by means of a sensor 11. When this is predicted the heat exchanger 6a will receive hot refrigerant through line 17 from the high pressure side of the compressor 1 so as to heat the refrigerant entering the evaporator 4 until ice formation is no longer likely. In an alternative embodiment, the heat exchanger may utilise an electric element to heat the refrigerant before it enters the evaporator. The heat exchanger 6a can preferably utilise a helically corrugated tube in order to enhance its heat exchange characteristics.



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